

Emissions Market Opportunities

Sponsored by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy's Federal Energy Management Program (FEMP)

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What are Emissions Allowances ?

- Emissions allowances represent a specific quantity of air emissions (pounds, tons) during a specific time period
- Emissions allowances are a commodity with monetary value
- Emissions allowance market values and banking/trading rules vary in different emissions markets

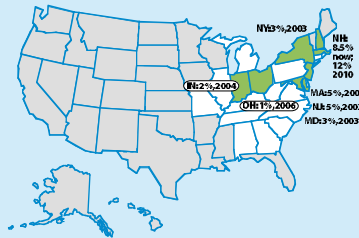
What Emissions Markets are Relevant for Facility Energy Managers?

- Energy efficiency and renewable energy (EERE) set-asides under the nitrogen oxides (NO_x) SIP call (see map and details)
- Emissions Reduction Credit (ERC) - Markets in nonattainment areas (see map and details)
- New/Future Markets - Greenhouse gas (GHG) trading and possible national 3-Pollutant Cap and Trade (see details)

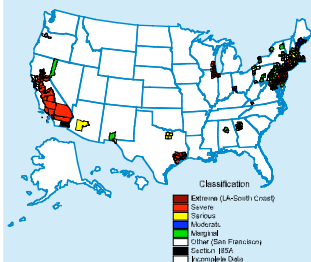
EERE Set-Asides under the NO_x SIP Call

- NO_x SIP Call: Requires State Implementation Plans that reduce NO_x emissions in 22 eastern states and Washington, D.C.
- Allows states the option to use a cap-and-trade program and set aside some emissions allowances for energy efficiency and renewable energy projects
- Seven states already plan EERE set-asides – Valued at \$2,500/ton (October 2003)
- More information available at <http://www.epa.gov/air/markets/lednox/index.html>

EERE Set-Asides, NO_x SIP Call Region



Counties Designated Nonattainment for Ozone



Emissions Reduction Credit Markets

- New emitters in certain nonattainment areas must purchase "offsets" from someone else who is reducing emissions
- Most markets are for VOCs, NO_x, and PM
- Could apply to large, on-site emissions reductions (e.g. boiler upgrades, replacement of diesels with clean renewable energy)
- Active ERC markets include California, Massachusetts, New York, Connecticut, New Jersey, and Texas
- Values range widely: \$1,400/ton NO_x to \$140,000/ton NO_x (unusual high in San Diego)
 - * Pennsylvania Moderate ERCs valued at \$1,400/ton (October 2003)
 - * San Diego ERCs valued at \$140,000/ton (2002) - \$50,000/ton (est.2003)
- More information available at <http://www.arb.ca.gov/ns/erco/erco.htm> (California) and <http://www.tncc.state.tx.us/permitting/airperm/banking/eccecg.htm> (Texas)

New / Possible Future Markets

- GHG Trading
 - Voluntary reporting establishes baselines (1992 Energy Policy Act 1605b)
 - * Baselines could help negotiate future obligations
 - * Reporting system being revised
 - Potential Future National NO_x, SO₂, and Mercury Cap and Trade (proposed legislation)
 - Targets electricity generators
 - No EERE set-aside
- More information available at <http://www.eia.doe.gov/oiaf/1605/fmtvrgghtml>.

What Steps Can Facilities Take to Participate in Emissions Markets?

- Identify and review requirements for relevant emissions markets
- Implement energy efficiency and renewable energy (EERE) project
- Calculate and document emissions reductions associated with project, according to market rules
- Investigate aggregation options (if needed or desired) – utility, energy service company, state agency, broker, other organization site projects, other nearby projects
- Apply for and obtain allowances or credits
- Explore options for allowance use
 - Trade allowances (bilateral, broker)
 - Other options: retain allowances for another site to use, retire allowances, sell allowances to a nonprofit organization for retirement
- Incorporate any revenue into project financials
- More information available at <http://www.epa.gov/air/markets/trading/buying.html>

How have Federal Energy Projects used Emissions Markets?

- Major changes in energy use at some federal facilities has reduced emissions, making the site eligible for emissions allowances
- FEMP and EPA working on federal demonstration project - EPAs Chelmsford (Massachusetts) New England Regional Laboratory plans participation in Massachusetts NO_x SIP Call EERE Set-Aside program (project in progress pending EERE rule finalization)

Outlook

- Emissions markets represent a potential source of revenue for facility energy projects
- Market opportunities vary dramatically
 - Depends on type of market
 - Depends on location and timing of emissions reductions
- Emissions reductions in a few locations (e.g. San Diego) can substantially affect energy project financials

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